



Volunteer Lake Assessment Program Individual Lake Reports

PRATT POND, NEW IPSWICH, NH

MORPHOMETRIC DATA

Watershed Area (Ac.):	426	Max. Depth (m):	2.7	Flushing Rate (yr ⁻¹)	7.6	Year	Trophic class	KNOWN EXOTIC SPECIES
Surface Area (Ac.):	38	Mean Depth (m):	1	P Retention Coef:	0.59	2004	MESOTROPHIC	
Shore Length (m):	1,800	Volume (m ³):	136,500	Elevation (ft):	1235			

TROPHIC CLASSIFICATION

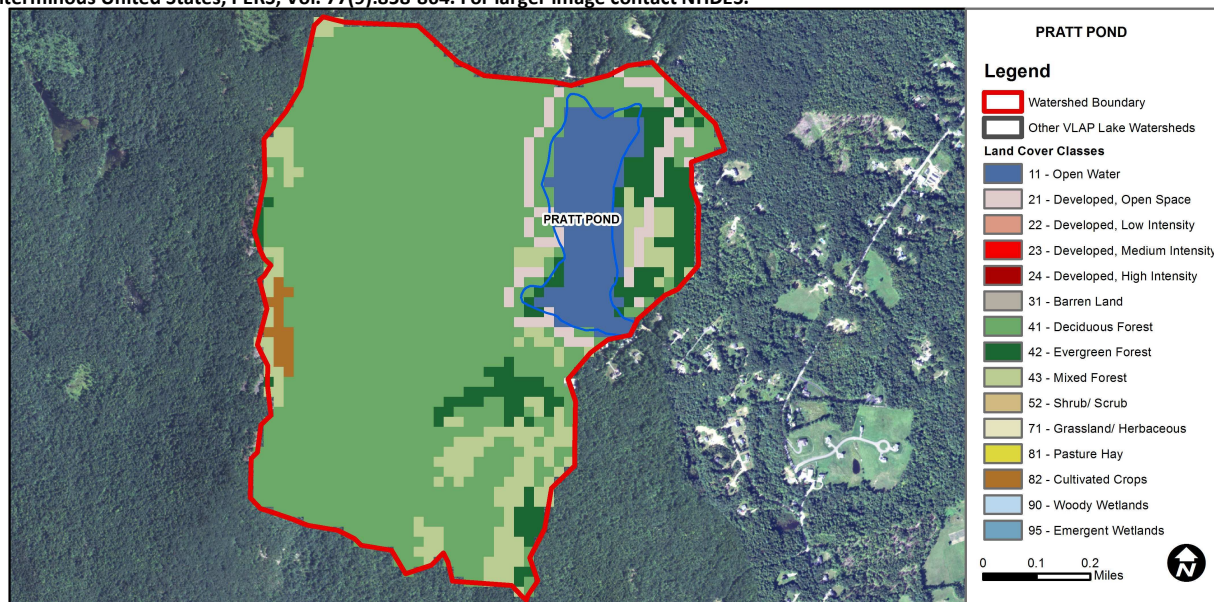
KNOWN EXOTIC SPECIES

The Waterbody Report Card tables are generated from the 2012 305(b) report on the status of N.H. waters, and are based on data collected from 2001-2011.

Designated Use	Parameter	Category	Comments
Aquatic Life	Phosphorus (Total)	Good	>=5 samples and median is < threshold but > 1/2 threshold value.
	pH	Bad	>10%, with a minimum of 2, samples exceed criteria, with 1 or more by a large margin.
	D.O. (mg/L)	Encouraging	< 10 samples and no exceedance of criteria. More data needed.
	D.O. (% sat)	Encouraging	< 10 samples and no exceedance of criteria. More data needed.
	Chlorophyll-a	Very Good	>5 samples and median is < 1/2 threshold.
Primary Contact Recreation	E. coli	Very Good	All bacteria samples <75% of geometric mean criteria, but not enough to calculate geometric mean. Or, all bacteria samples are < single sample criteria and calculated Geometric means are less than geometric mean criteria.
	Chlorophyll-a	Very Good	At least 10 samples with 0 exceedances of criteria.

WATERSHED LAND USE SUMMARY

Fry, J., Xian, G., Jin, S., Dewitz, J., Homer, C., Yang, L., Barnes, C., Herold, N., and Wickham, J., 2011. Completion of the 2006 National Land Cover Database for the Conterminous United States, PERS, Vol. 77(9):858-864. For larger image contact NHDES.



Land Cover Category	% Cover	Land Cover Category	% Cover	Land Cover Category	% Cover
Open Water	8.51	Barren Land	0	Grassland/Herbaceous	0
Developed-Open Space	3.71	Deciduous Forest	69.89	Pasture Hay	0
Developed-Low Intensity	0	Evergreen Forest	7.42	Cultivated Crops	0.93
Developed-Medium Intensity	0	Mixed Forest	9.33	Woody Wetlands	0
Developed-High Intensity	0	Shrub-Scrub	0	Emergent Wetlands	0



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2013 DATA SUMMARY

OBSERVATIONS AND RECOMMENDATIONS (Refer to Table 1 and Historical Deep Spot Data Graphics)

- CHLOROPHYLL-A:** Chlorophyll levels were low in July and less than the state median; however historical trend analysis indicates significantly increasing (worsening) chlorophyll levels since monitoring began.
- CONDUCTIVITY/CHLORIDE:** Conductivity was very low and much less than the state median. Historical trend analysis indicates significantly decreasing (improving) conductivity since monitoring began.
- E. COLI:** South Inlet E. coli levels were much less than state standard for surface waters.
- TOTAL PHOSPHORUS:** Epilimnetic phosphorus levels were low and less than the state median. Historical trend analysis indicates relatively stable epilimnetic phosphorus with moderate variability between years.
- TRANSPARENCY:** Transparency was good and the Secchi disk was visible on the pond bottom. Historical trend analysis indicates significantly decreasing (worsening) transparency; however this is directly related to the pond water level and not the transparency as the Secchi disk has been visible on the pond bottom in most years.
- TURBIDITY:** Epilimnetic turbidity was low.
- PH:** pH levels were lower than desirable and potentially critical to aquatic life.
- DISSOLVED OXYGEN:** Dissolved oxygen levels were high throughout the water column and sufficient to support aquatic life.
- RECOMMENDED ACTIONS:** Increase monitoring frequency to three times per summer, typically June, July and August, to better assess seasonal and historical water quality. Contact the responsible party for dam control and maintaining a consistent water level as the decreasing transparency trend is not reflective of the actual pond transparency rather the water level. The increased frequency and intensity of storm events highlights the importance of managing stormwater runoff in the watershed. Educate lake residents on ways to reduce stormwater runoff from their properties utilizing DES' "Homeowner's Guide to Stormwater Management."

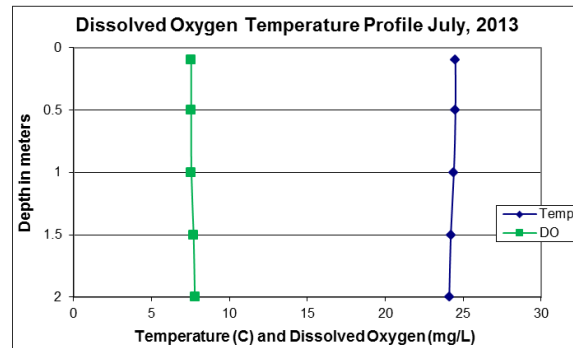


Table 1. 2013 Average Water Quality Data for PRATT POND								
	Alk.	Chlor-a	Cond.	E. Coli	Total P	Trans.	Turb.	pH
Station Name	mg/l	ug/l	uS/cm	#/100ml	ug/l	m	ntu	
						NVS		
Epilimnion	1.40	3.79	16.0		9	2.50	0.57	6.24
South Inlet				20				

NH Median Values: Median values for specific parameters generated from historic lake monitoring data.

Alkalinity: 4.9 mg/L

Chlorophyll-a: 4.58 mg/m³

Conductivity: 40.0 uS/cm

Chloride: 4 mg/L

Total Phosphorus: 12 ug/L

Transparency: 3.2 m

pH: 6.6

NH Water Quality Standards: Numeric criteria for specific parameters. Results exceeding criteria are considered a water quality violation.

Chloride: < 230 mg/L (chronic)

E. coli: > 88 cts/100 mL – public beach

E. coli: > 406 cts/100 mL – surface waters

Turbidity: > 10 NTU above natural level

pH: 6.5-8.0 (unless naturally occurring)

HISTORICAL WATER QUALITY TREND ANALYSIS

Parameter	Trend	Explanation	Parameter	Trend	Explanation
pH	Stable	Trend not significant; data highly variable.	Chlorophyll-a	Degrading	Data significantly increasing.
Conductivity	Improving	Data significantly decreasing.	Transparency	Degrading	Data significantly decreasing.
			Phosphorus (epilimnion)	Stable	Trend not significant; data moderately variable.

